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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,754	05/10/2002	Thomas Francis McNulty	RD-29414	1569
6147	7590	01/02/2004		
GENERAL ELECTRIC COMPANY GLOBAL RESEARCH CENTER PATENT DOCKET RM. 4A59 PO BOX 8, BLDG. K-1 ROSS NISKAYUNA, NY 12309				
			EXAMINER BLACKWELL RUDASIL, GWENDOLYN A	
			ART UNIT 1775	PAPER NUMBER

DATE MAILED: 01/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/063,754

Applicant(s)

MCNULTY ET AL.

Examiner

Gwendolyn A. Blackwell-Rudasill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-12 and 14-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-12 and 14-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 May 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3-12, and 14-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 5,976,247, Hansen et al, in view of United States Patent no. 4,102,666, Baumler et al, further in view of Japanese Patent Application Publication no. 63-236722, JP '722.

Hansen et al disclose a crucible, made from vitreous silica, Czochralski process, having an inner surface and an outer surface, (columns 2-3, lines 55-5). A substantially uniform and continuous cristobalite coating is formed on the surface of the crucible. The coated crucible can be used to temperatures up to about 2000°K (1727°C), (column 3, lines 37-56). The inner and outer coatings contain devitrification promoters such as alkaline earth metal cations and the

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lanthanides. The concentration of the alkaline earth metals, applied to a surface of the crucible, should not exceed about 50 mM per thousand square centimeters of the surface to be coated, (columns 5-6, lines 8-16). Because Hansen et al disclose that metal cations can be added to promote cristobalite formation, the claimed physical property of the article being chemically inert to halide gases and acids would be present in the prior art. Hansen et al do not disclose that the crucible is transparent or the thickness of the coating.

Baumler et al disclose a quartz glass element used in the production of semiconductor elements with an outer coating of cristobalite, (abstract), that can be used at high temperatures, (columns 3-4, lines 43-48). The thickness of the coatings is preferably less than 1% of the thickness of the wall of the quartz-glass element, (column 5, lines 2-36). In addition, calcium can be used as a crystallization promoter, (column 7, lines).

JP '722 disclose a clear quartz glass article used in the semiconductor industry wherein the glass article is coated with a solution with a dopant that changes transforms the surface of the glass article into cristobalite, (abstract). The term "clear quartz glass" is considered synonymous with Applicant's limitation that the fused quartz article is transparent to visible light.

Hansen et al, Baumler et al, and JP '722 relate to inventions used in making semiconductor elements. JP '722 is used to show that it is commonly known in the art clear quartz glass articles can have the surface transformed into a cristobalite crystal structure. It would have been obvious to one skilled in the art at the time of invention to utilize a transparent substrate as disclosed by JP '722 with the coating of Hansen et al or Baumler et al to create a clear quartz structure the avoids contamination and or heat distortion.

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Baumler et al demonstrate that the thickness of the coating is relative to the thickness of the quartz glass element. As such, absent a showing of criticality with respect to thickness (a result effective variable), it would have been obvious to a person of ordinary skill in the art at the time of the invention to adjust the thickness through routine experimentation in order to achieve varying degrees of protection for the crucible. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

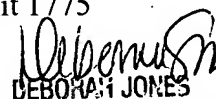
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn A. Blackwell-Rudasill whose telephone number is (703) 305-9741. The examiner can normally be reached on Monday - Thursday; 6:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gwendolyn A. Blackwell-Rudasill  
Examiner  
Art Unit 1775

  
DEBORAH JONES

SUPERVISOR OF THE EXAMINER

  
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